



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/795,972

03/08/2004

Edward W. Jackson

7045.46

8602

21999 7590 02/24/2010

KIRTON AND MCCONKIE  
60 EAST SOUTH TEMPLE,  
SUITE 1800  
SALT LAKE CITY, UT 84111

EXAMINER

LEUNG, JENNIFER A

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

02/24/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/795,972	<b>Applicant(s)</b> JACKSON ET AL.	
	<b>Examiner</b> JENNIFER A. LEUNG	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 16-20 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3,4 and 6-15 is/are allowed.
- 6) ☒ Claim(s) 1,2 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's amendment filed on December 7, 2009 has been considered. Claims 1-15 are under consideration. Claims 16-20 are withdrawn.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Scheu (US 2,070,142).

Regarding claims 1 and 2, Scheu discloses an apparatus (see FIG. 6; page 3, column 2, line 36 to page 4, column 2, line 19) comprising:

a chamber comprising one or more sidewalls (i.e., the walls of cylindrical member **68**, frustoconical portion **71**), a base (i.e., at the lower end of the cylindrical tubular member **68**), a lid (i.e., top wall **71a**) and a gas outlet (i.e., vapor outlet opening **72**);

a hopper comprising one or more sidewalls (i.e., the peripheral wall of heater base portion **63**), a base (i.e., the bottom of the heater base portion **63**), and a lid (i.e., cover **64**), wherein the hopper substantially surrounds the chamber;

a conduit (i.e., defined by portions **73**, **74**, **75**, **81**) connected to the gas outlet; and

a hatch (i.e., opening **6a**, covered with a hinge mounted cap member) in the lid **64**.

Regarding claim 5, Scheu (see FIG. 6; page 3, column 2, line 36 to page 4, column 2, line

Art Unit: 1797

19) discloses an apparatus comprising:

a chamber comprising one or more sidewalls (i.e., the walls of cylindrical member **68**, frustoconical portion **71**), a base (i.e., at the lower end of the cylindrical tubular member **68**), a lid (i.e., top wall **71a**) and a gas outlet (i.e., vapor outlet opening **72**);

a hopper comprising one or more sidewalls (i.e., the peripheral wall of heater base portion **63**), a base (i.e., the bottom of the heater base portion **63**), and a lid (i.e., cover **64**), wherein the hopper substantially surrounds the chamber;

a conduit (i.e., frustoconical member **81**) connected to the gas outlet; and

a housing (i.e., defined by portions **73**, **74**, **75**) adjacent to the burn chamber and capable of capturing the radiant heat of the burn chamber.

Although Scheu discloses that the material to be burned comprises liquid fuel, and not solid sulphur, the apparatus of Scheu still meets the claim, since expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim, and the inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims. Also, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. See MPEP §2114, 2115. In the instant case, the prior art structure (see FIG. 6) would be capable of performing the intended use of burning or combusting solid sulphur within the chamber, e.g., by supplying solid sulphur to the hopper **63** via the hatch **6a**, allowing the solid sulphur to enter into the chamber via the elongated slots **69**, and igniting the solid sulphur within the chamber, with the burning or combustion of the sulphur being supported by the air admitted

Art Unit: 1797

via means **65**.

Instant claims 1, 2 and 5 structurally read on the apparatus of Scheu.

***Allowable Subject Matter***

3. Claims 3, 4, 6-10 and 12-15 are allowable, for the same reasons indicated in the Office Action mailed on September 15, 2008.

In addition, claim 11 is allowable. The prior does not disclose or adequately suggest the claimed sulphurous acid generator apparatus, wherein said apparatus comprises a combustion chamber comprising one or more sidewalls, a base, a lid and a gas outlet; and a hopper to hold solid sulphur to be combusted in the combustion chamber, said hopper comprising one or more side walls, a base and a lid, wherein the hopper substantially surrounds the combustion chamber; and wherein, in particular, the combustion chamber and hopper are provided in combination with a first conduit connected to the gas outlet of the combustion chamber; and a second conduit for conducting a stream of water, said second conduit comprising a restrictor; wherein the first conduit extends into the restrictor so as to both point and terminate downstream of the restrictor.

***Response to Arguments***

4. Applicant's arguments filed December 7, 2009 have been fully considered but they are not persuasive. Regarding the rejection of claims 1, 2 and 5 under 35 U.S.C. 102(b) as being anticipated by Scheu, Applicant (generally, at page 7, last paragraph, to page 9, second paragraph) argues that the prior art to Scheu fails to anticipate the claims because the functioning of the apparatus differs from the functions being claimed. In particular, Applicant argues that,

“... combustion occurs in "the annular space between the vapor heater and the outer housing" as opposed to occurring within the vapor heater. As depicted in Scheu, Fig. 6, the combustion chamber defined by "the annular space between the vapor heater and the

Art Unit: 1797

outer housing" is located entirely above, or otherwise wholly outside, the "heater base portion 63." As a result, Scheu fails to teach or disclose a "hopper [that] substantially surrounds the combustion chamber" as required by claim 1. Further, the annular space between the vapor heater and the outer housing of Scheu could not be substantially surrounded by the heater base portion 63 because the "heater base portion 63... [is] adapted to contain a liquid fuel to a suitable level such as indicated at 'L' [in Fig. 6]." Scheu, pg. 3, col. 2, lns. 37-39. If the annular space between the vapor heater and the outer housing of Scheu were substantially surrounded by the heater base portion 63 it would be substantially submerged in liquid fuel instead of filled with combustible vapor..." (at paragraph bridging pages 8 and 9).

The Examiner respectfully disagrees.

A claim containing a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior art apparatus teaches all the structural limitations of the claim. If the prior art structure is capable of performing the intended use, then it meets the claim. See MPEP § 2114. Note also that recitations with respect to the materials being worked upon by the apparatus (e.g., the solid sulphur) do not impart patentability to the claim. See MPEP § 2115.

In the instant case, the apparatus of Scheu may function differently than the apparatus as claimed. However, the apparatus of Scheu (see FIG. 6) comprises all of the structural elements of the claim; namely, a first chamber comprising one or more sidewalls (i.e., the walls of cylindrical member **68**, frustoconical portion **71**), a base (i.e., at the lower end of the cylindrical tubular member **68**), a lid (i.e., top wall **71a**) and an outlet (i.e., vapor outlet opening **72**); and a second chamber or "hopper" comprising one or more sidewalls (i.e., the peripheral wall of heater base portion **63**), a base (i.e., the bottom of the heater base portion **63**), and a lid (i.e., cover **64**),

Art Unit: 1797

wherein the second chamber substantially surrounds the first chamber. The apparatus further comprises a hatch in the lid (i.e., opening **6a**, covered with a hinge mounted cap member) and a housing (i.e., defined by portions **73, 74, 75**) adjacent to the first chamber.

Because the apparatus of Scheu comprises all of the structural elements of the claim, the apparatus of Scheu would be capable of performing the intended use as claimed. For example, the prior art structure would be capable of performing the intended use of burning or combusting solid sulphur within the first chamber, e.g., by supplying solid sulphur to the second chamber or hopper **63** via the hatch **6a**, allowing the solid sulphur to enter into the first chamber via the elongated slots **69**, and igniting the solid sulphur within the first chamber, with the burning or combustion being supported by the air admitted via means **65**.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1797

\* \* \*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER A. LEUNG whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter D. Griffin can be reached on (571) 272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A. Leung/  
Primary Examiner, Art Unit 1797